The official voice of the Air Force Research Laboratory
news@afrl
Features
Fall 2000 Volume II, Issue 3

World's largest titanium component delivered for laser

by Ken Englade, Airborne Laser Program Office

WICHITA, KAN. — The world's largest single titanium aircraft component was delivered here recently. It will form part of the underside of the United States Air Force's Airborne Laser – the first combat plane to carry a laser that can destroy attacking missiles.

This titanium "belly skin" was formed by joining two 25-foot-long by 5.5-foot-wide panels. Manufactured by AHF Ducommun of Gardena, Calif., they were delivered to the Boeing Modification Center here where they will be fitted to a Boeing 747-400 freighter aircraft as part of an 18-month series of modifications.

The panel has 36 14.75-inch-diameter holes through which the aircraft's laser exhaust will be ejected. Titanium was selected because it met the thermal, strength and chemical compatibility needed. Steam will be the primary by-product that will pass through the holes in the buckling-resistant titanium panel. On exiting, the steam will immediately evaporate, causing no harmful effects to the environment.

ONE BIG BELLY — One of two 25- by 5.5-foot panels that will form the world's largest single titanium aircraft component is being positioned by Boeing employees at the company's Wichita Modification Center where it was recently delivered. The panels will form part of the underside of the United States Air Force's Airborne Laser, a modified Boeing 747-400F that will become the first combat plane to carry a laser capable of destroying attacking Scud-like missiles. Visible are 14.75-inch-diameter holes through which the aircraft's laser exhaust will be ejected.

Under a $1.4 billion program, an Air Force and industry team is designing, developing, integrating and testing a modified Boeing 747 jumbo jet equipped with a chemical oxygen-iodine laser. The Airborne Laser is designed to destroy theater ballistic missiles shortly after being launched. The current phase of the program, which Air Force officials note is on-schedule and on-budget, will culminate in 2003 with the aircraft's planned test destruction of Scud-like missiles off the Pacific coast.

The Airborne Laser program is being managed by an Air Force program office at Kirtland AFB, N.M., and involves a contractor team consisting of the Boeing Company in Seattle, Wash., Lockheed Martin in Sunnyvale, Calif., and TRW in Redondo Beach, Calif. **@**